

Log scale Scribner rule

Top d.i.b.	Log length - feet				
	8	10	12	14	16
Inches	Board feet				
8	15	19	22	26	30
10	28	34	41	48	55
12	43	54	64	75	86
14	62	77	92	108	123
16	83	104	124	145	166
18	108	135	162	189	216
20	136	170	204	238	272
22	167	209	250	292	334
24	202	252	302	353	403
26	239	299	358	418	478
28	280	349	419	489	559
30	324	404	485	566	647
32	370	463	556	648	741
34	420	526	631	736	841
36	474	592	711	830	948
38	530	663	796	928	1,061
40	590	738	885	1,032	1,180

Log scale Doyle rule

Top d.i.b.	Log length - feet				
	8	10	12	14	16
Inches	Board feet				
8	8	10	12	14	15
10	18	22	27	32	36
12	32	40	48	56	64
14	50	62	75	88	100
16	72	90	108	126	144
18	98	122	147	172	196
20	128	160	192	224	256
22	162	202	243	284	324
24	200	250	300	350	400
26	242	302	363	424	484
28	288	350	432	504	576
30	338	422	507	592	675
32	392	490	588	686	784
34	450	562	675	788	900
36	512	640	768	896	1,024
38	578	722	867	1,012	1,156
40	648	810	972	1,134	1,296

G. Luther Schnur
Forester, Central States
Forest Experiment Station

Richard D. Lane
Officer in Charge
Carbondale Branch

STATION NOTES

CENTRAL STATES FOREST EXPERIMENT STATION
COLUMBUS, OHIO

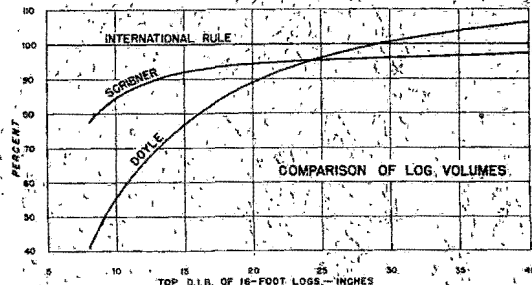
No. 47

No. **UAS 073** October 1, 1948

LOG RULE COMPARISON

INTERNATIONAL 1/4-INCH, DOYLE, AND SCRIBNER

Both the Doyle and Scribner log rules consistently underscale logs smaller than 22 inches in diameter, whereas board-foot volumes by the International 1/4-inch rule closely approximate lumber tally. The following chart and tables show the volume relationships between the three log rules and provide factors for converting log volumes and values from one rule to another. Because the International rule more nearly approximates mill tally, it has been used as the standard for comparison.



Comparison of Doyle and Scribner log volumes with International

Top d.i.b.	8-ft. logs		10-ft. logs		12-ft. logs		14-ft. logs		16-ft. logs	
	Doyle	Scrib.	Doyle	Scrib.	Doyle	Scrib.	Doyle	Scrib.	Doyle	Scrib.
Inches	Percent									
8	47	88	45	84	44	81	42	79	41	77
10	62	96	60	90	59	88	57	86	55	85
12	73	98	71	96	69	93	67	90	66	89
14	79	98	78	96	77	94	75	92	74	90
16	86	99	83	97	82	95	81	93	80	92
18	90	99	88	97	87	96	86	94	84	93
20	93	99	92	98	91	97	90	95	88	94
22	96	99	95	98	94	97	93	95	92	94
24	99	99	97	98	96	97	95	96	94	95
26	100	99	99	98	99	97	98	96	97	95
28	102	99	101	98	100	97	99	96	99	96
30	104	99	103	98	102	98	101	97	100	96
32	105	99	104	99	104	98	103	97	102	96
34	106	99	105	99	105	98	104	97	103	96
36	107	99	107	99	106	98	105	97	104	97
38	108	99	107	99	107	98	106	97	105	97
40	109	99	108	99	107	98	106	97	106	97

Log volumes and values in terms of one rule can be converted to another by means of the above percentages, using the following procedures:

1. To convert International volume to Doyle or Scribner, multiply the International volume by the percentage for the desired rule, log diameter and length. Example: Given 1,000 board feet International volume in 14-inch logs 12 feet long, what is the Doyle volume? $1,000 \times 0.77$ (from table) = 770 board feet Doyle volume.

2. To convert Doyle or Scribner volume to International, divide the Doyle or Scribner volume by the percentage for the given rule, log diameter and length. Example: Given 1,000 board feet Doyle volume in 16-inch logs 10 feet long, what is the International volume? $1,000 \div 0.83 = 1,205$ board feet International volume.

3. Doyle volume can be converted to Scribner volume, or vice versa, by first changing to International and then to the desired rule, using the above procedures. Example: Given 1,000 board feet Doyle volume in 16-inch logs 10 feet long, what is the Scribner volume? Doyle volume = 1,205 board feet International (see 2 above); then $1,205 \times 0.97 = 1,169$ board feet Scribner volume.

4. Dollar values per unit volume in terms of one rule can be converted to another rule substituting dollar values for log volumes in the above procedures and by dividing where multiplying is indicated and vice versa. Example: Given a number of logs 16 inches in diameter and 12 feet long, worth \$100.00 per thousand board feet International scale, what is the Doyle value per thousand board feet? $\$100.00 \div 0.82$ (from table) = \$121.95.

Log scale International 1/4" rule

Top d.i.b.	Log length - feet				
	8	10	12	14	16
Inches	Board feet				
8	17	22	27	33	39
10	29	38	46	56	65
12	44	56	69	83	97
14	63	80	98	117	136
16	84	108	131	156	181
18	109	139	169	200	232
20	137	174	211	250	290
22	158	214	259	306	354
24	203	257	311	368	424
26	241	304	368	434	501
28	281	356	430	507	584
30	325	411	497	586	674
32	373	470	568	669	770
34	423	534	644	758	872
36	476	600	725	853	981
38	533	672	811	954	1,096
40	593	752	912	1,065	1,218

d.i.b. = diameter inside bark